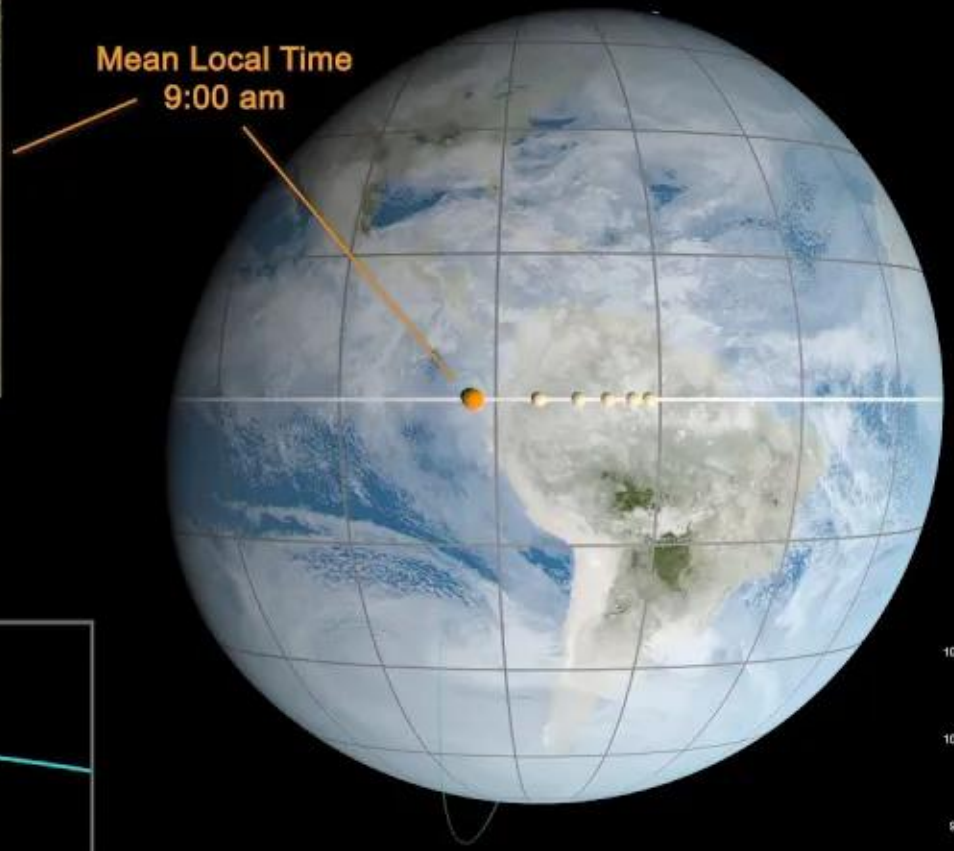
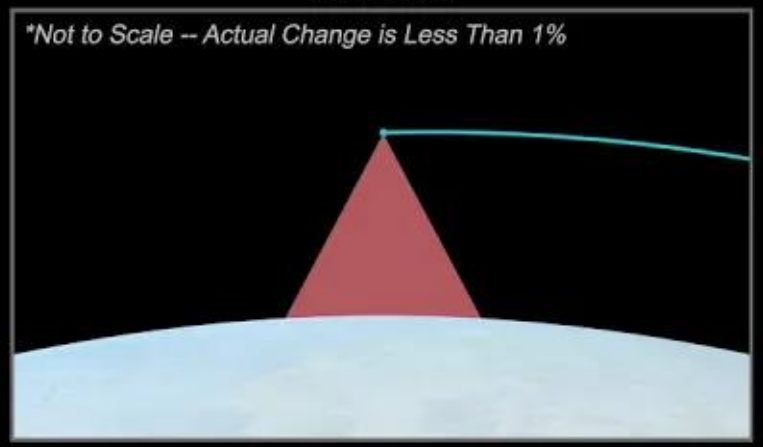
2025

Resulting image for a 9:00 am MLT

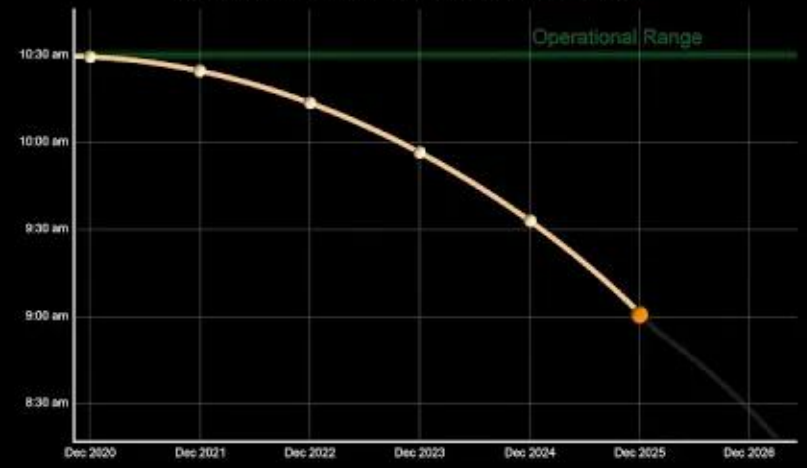


Resulting image for a 10:30 am MLT

Swath Width



Mean Local Time of the Descending Node



1
00:00:07,349 --> 00:00:04,390
terra has consistently orbited earth

2
00:00:09,509 --> 00:00:07,359
from pole to pole for over 20 years

3
00:00:11,190 --> 00:00:09,519
collecting important data about earth's

4
00:00:13,749 --> 00:00:11,200
systems

5
00:00:14,950 --> 00:00:13,759
crossing the equator at 10 30 am mean

6
00:00:16,630 --> 00:00:14,960
local time

7
00:00:19,429 --> 00:00:16,640
allowed tara's five instruments to

8
00:00:21,349 --> 00:00:19,439
collect consistent simultaneous data

9
00:00:26,630 --> 00:00:21,359
important to earth's systems research

10
00:00:31,669 --> 00:00:29,429
in 2020 terra completed its final

11
00:00:33,830 --> 00:00:31,679
inclination maneuver using some of its

12
00:00:35,670 --> 00:00:33,840
limited fuel supply to maintain that

13
00:00:38,229 --> 00:00:35,680

crossing time

14
00:00:40,310 --> 00:00:38,239
since that final inclination maneuver

15
00:00:43,030 --> 00:00:40,320
terra has continuously drifted to an

16
00:00:45,510 --> 00:00:43,040
earlier equatorial crossing time

17
00:00:47,350 --> 00:00:45,520
by the fall of 2022

18
00:00:49,830 --> 00:00:47,360
tara's crossing time will be earlier

19
00:00:50,709 --> 00:00:49,840
than 10 15 a.m

20
00:00:53,110 --> 00:00:50,719
then

21
00:00:54,389 --> 00:00:53,120
tara will be lowered to a new orbit

22
00:00:56,389 --> 00:00:54,399
where it will be able to collect

23
00:00:57,750 --> 00:00:56,399
valuable data at an even earlier

24
00:01:02,389 --> 00:00:57,760
crossing time

25
00:01:04,950 --> 00:01:02,399
small changes will be noticeable in

26
00:01:06,789 --> 00:01:04,960
terra's data and imagery

27
00:01:09,190 --> 00:01:06,799
evidence in imagery of the earlier

28
00:01:10,950 --> 00:01:09,200
crossing time will be visible as longer

29
00:01:12,390 --> 00:01:10,960
shadows especially in mountain

30
00:01:14,550 --> 00:01:12,400
landscapes

31
00:01:22,070 --> 00:01:14,560
like these images of the grant range in

32
00:01:27,590 --> 00:01:25,190
meanwhile as terra moves closer to earth

33
00:01:29,350 --> 00:01:27,600
the sensor's views will become narrower

34
00:01:30,390 --> 00:01:29,360
leading to slightly narrower swath

35
00:01:32,230 --> 00:01:30,400
widths

36
00:01:34,710 --> 00:01:32,240
the effect will be most noticeable in

37
00:01:37,190 --> 00:01:34,720
aster imagery but each of terra's

38
00:01:39,670 --> 00:01:37,200

sensors will be affected

39
00:01:41,590 --> 00:01:39,680
however the impact on science is

40
00:01:43,830 --> 00:01:41,600
expected to be minimal

41
00:01:46,149 --> 00:01:43,840
in fact some impacts could prove

42
00:01:47,990 --> 00:01:46,159
beneficial to some areas of research

43
00:01:49,830 --> 00:01:48,000
like land morphology

44
00:01:51,749 --> 00:01:49,840
surface temperature

45
00:01:54,230 --> 00:01:51,759
and climate research

46
00:01:55,670 --> 00:01:54,240
terra's lengthy legacy of more than two

47
00:01:57,429 --> 00:01:55,680
decades of data

48
00:01:59,830 --> 00:01:57,439
will continue to contribute to